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Frank W. Fisher
MARKET ADMINISTRATOR

Market Administrator's

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Testing of Commercial Milk Supplies for Fat Began Late in the 19th Century

With the commercial introduction of the first modern-type centrifugal cream separator by De Laval of Sweden in 1879, came a greater interest in the fat content of milk. But it was not until 1890 that a practical method for measuring the percentage of fat in milk was developed. Although most people were aware of differences in the amount of fat in different batches of milk, no definite understanding about this variation was available before 1890. In that year S. M. Babcock of the Wisconsin Experiment Station completed development of a method for measuring these differences. His contribution made it practical for the first time to consider the quantity of milkfat, in monetary terms the most valuable ingredient, then as now, in arriving at the price of milk. It represented an advance of inestimable value to the dairy industry, from the standpoint not only of more equitable pricing but also in improvement of dairy cattle and the standardization of dairy products.

Until comparatively recent times skim milk and buttermilk were considered to be worth not much more than water. Great quantities of these items, the by-product of farm-skimmed cream and farm-churned butter, were either fed to animals or wasted. As late as 1929 over half of all skim milk and buttermilk produced never left the farm. It was not until 1943 that whole milk deliveries to plants and dealers accounted for as much as half of the U. S. milk production, and this milestone was

reached only with the assistance of Government-instituted price incentives in the interest of effective wartime utilization of nonfat solids in milk. Even today, skim milk is of relatively low value, because of the large supply in relation to commercial demand.

But recent developments, primarily on the demand side, suggest that the nonfat component of milk eventually will become more valuable, especially in relation to milkfat. The demand for milkfat has been declining, reflecting a change in consumer tastes and greater competition from vegetable fats which can be produced more cheaply. Consumers have been making a conscious effort to reduce their intake of all animal fats, including milkfat, and they have been using less butter and cream per capita. The downtrend in butter has been evident for almost 20 years. To a considerable extent it results from the more widespread use of oleomargarine.

People have also become more aware of the nutritional value of nonfat solids in recent years. As a result, there has been a sharp increase in the consumption of cottage cheese, nonfat dry milk, and fluid skim milk. But perhaps even more significant has been the development of new fluid milk products in which the nonfat solids of milk make up a greater proportion of the drink than occurs naturally in milk. These products, called "fortified" milks, are usually enriched with condensed skim milk.

Consumers Apparently Buying More Butter in 1960

Preliminary data indicate consumption sources were larger than a year earlier during the first half of 1960. Output was up 37 million pounds, 5 percent, and storage stocks of private firms increased 2 million pounds less this year making a 39 million pound larger commercial supply for January-June than a year earlier. Of this increase, 9.7 million pounds more was purchased by USDA and 5 million more by the military. This leaves a 24-million pounds larger disappearance of creamery butter than in first half of 1959, a gain of nearly 4 percent. However, distribution of butter from CCC supplies were only about half those of a year earlier. This together with a further decline in production of farm butter indicates smaller aggregate consumption of butter in January-June 1960 than in 1959. For the year as a whole per capita consumption of butter may be below the previous record low of 8.0 pounds established in 1959. Use of margarine is continuing at record levels.

Per capita consumption of evaporated milk is headed for a new postwar low during 1960, the eleventh straight annual decline. Consumption of other products per capita will be about at the 1959 levels. However, in total, consumption of dairy products combined, on a milkfat basis will be a new record low in 1960--no more than 670 pounds, compared with the 1947-49 average of 742 pounds and the 1935-39 average of 803 pounds.

Consumption of milk solids-not-fat in all dairy products, will be at a postwar high during 1960.



Columbus

MARKET FACTS FOR EASY REFERENCE

PRICE SUMMARY

Producers' Uniform Price (3.5%)	\$4.77	\$4.21	\$4.88
Producers' Uniform Price (4%)	5.155	4.585	5.275
Class I (3.5%)	4.556	4.394	4.584
Class II (3.5%)	4.156	3.994	4.184
Class III (3.5%)	3.851	3.699	3.866
Class IV (3.5%)	3.097	2.998	3.167
Producer Butterfat Differential for each 1/10%	7.7¢	7.5¢	7.9¢

UTILIZATION SUMMARY

Percent of Producer Milk in Class I	85.7	79.5	92.2
" " " B.F. " " I	85.3	78.7	91.2
" " " Milk " " II	8.6	8.6	5.7
" " " B.F. " " II	2.6	2.8	2.4
" " " Milk " " III	2.1	3.3	.8
" " " B.F. " " III	3.5	4.5	4.0
" " " Milk " " IV	3.6	8.6	1.3
" " " B.F. " " IV	8.6	14.0	2.4

PRODUCTION SUMMARY

Total Pounds of Producer Milk Delivered	26,321,725	26,234,265	24,655,540
Average Daily Class I Producer Milk	752,060	672,969	758,050
Total Number of Producers	1,611	1,623	1,732
Average Daily Production per Producer	545	521	475
Average Butterfat Test	3.63	3.64	3.65
Total Value of Producer Milk at Test	\$1,195,216.07	\$1,129,368.51	\$1,147,903.64
Income per Producer (7 Day Average)	\$173.11	\$157.13	\$154.64

GROSS CLASS USE (Pounds)

Class I Skim	21,746,926	20,110,727	22,182,595
" I B.F.	814,882	751,307	825,698
" I Milk	22,561,808	20,862,034	23,008,293
" II Skim	2,326,833	2,338,795	2,152,052
" II B.F.	24,712	27,028	22,114
" II Milk	2,351,545	2,365,823	2,174,166

AVERAGE DAILY SALES (Quarts)

Milk	300,104	270,168	302,583
Buttermilk	5,634	6,217	6,761
Chocolate	18,722	12,688	22,822
Skim	11,416	10,117	11,084
Cream	8,648	7,966	8,416

Sept. 1960	August 1960	Sept. 1959
\$4.77	\$4.21	\$4.88
5.155	4.585	5.275
4.556	4.394	4.584
4.156	3.994	4.184
3.851	3.699	3.866
3.097	2.998	3.167
7.7¢	7.5¢	7.9¢
85.7	79.5	92.2
85.3	78.7	91.2
8.6	8.6	5.7
2.6	2.8	2.4
2.1	3.3	.8
3.5	4.5	4.0
3.6	8.6	1.3
8.6	14.0	2.4
26,321,725	26,234,265	24,655,540
752,060	672,969	758,050
1,611	1,623	1,732
545	521	475
3.63	3.64	3.65
\$1,195,216.07	\$1,129,368.51	\$1,147,903.64
\$173.11	\$157.13	\$154.64
21,746,926	20,110,727	22,182,595
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300,104	270,168	302,583
5,634	6,217	6,761
18,722	12,688	22,822
11,416	10,117	11,084
8,648	7,966	8,416

COMPARATIVE STATISTICS



COLUMBUS MARKETING AREA



Sept., 1951 - 60

Year	Receipts from Producers	Average Butter-fat Test	Percentage of Producer Milk in Each Class				Uniform Producer Price (3.5%)	Class prices at 3.5%				Number of Producers	Daily Average Production
			Class I	Class II	Class III	Class IV		Class I	Class II	Class III	Class IV		
1951.....	16,290,664	4.00	84.9	12.5	2.6	—	4.64	4.696	4.295	3.520	—	2,112	257
1952.....	17,648,314	3.98	80.3	17.3	2.4	—	5.14	4.23	4.83	3.897	—	2,128	270
1953.....	20,419,562	3.89	80.1	15.8	4.1	—	4.52	4.649	4.249	3.474	—	2,234	305
1954.....	21,316,057	3.82	79.5	8.1	7.2	5.2	4.30	4.456	4.056	4.056	3.181	2,166	328
1955.....	21,917,159	3.77	82.0	8.9	7.0	2.1	4.48	4.55	4.15	4.15	3.195	2,089	350
1956.....	23,259,478	3.75	80.7	8.9	6.1	4.3	4.43	4.528	4.128	4.128	3.252	2,042	380
1957.....	23,118,767	3.73	86.0	7.2	3.5	3.3	4.54	4.648	4.248	4.148	3.146	1,885	409
1958.....	22,663,422	3.71	87.8	8.8	1.0	2.4	4.41	4.472	4.072	3.972	2.968	1,768	427
1959.....	24,655,540	3.65	92.2	5.7	.8	1.3	4.88	4.584	4.184	3.866	3.167	1,732	475
1960.....	26,321,725	3.63	85.7	8.6	2.1	3.6	4.77	4.556	4.156	3.851	3.097	1,611	545

Number of Milk Cows Declining Less In 1960

The number of milk cows in the United States has declined each year since 1944, except for a brief period in the early 1950's. Throughout the 1920's and 1930's, production of milk per cow increased less rapidly than in recent years. As per capita demand for milk was relatively stable in the 1920's and 1930's, farmers increased the number of milk cows about in proportion to the gain in population. The number of milk cows declined in only 2 periods before World War II. One decline was associated with the cattle cycle in the late 1920's, and it was very slight. The other was the largest ever experienced; it was occasioned by the widespread drought during the mid-1930's.

The steady decline in numbers of milk cows since the mid-1940's has paralleled the decline in demand for milk per capita, on the one hand, and a rising production

of milk per cow on the other. The decline in number of milk cows has varied among years, depending upon fluctuations in the economic motivations for expediting or slowing up the rate of exodus from dairy farming. On the average, about 4 percent of the dairy farms ceased to produce milk each year during the last 10 to 15 years. This rate of decline was not completely offset by the increase in average number of cows per herd. The rate of increase in average production per animal has been accelerated. This has been made possible by more general use of superior sires and more rigorous culling based on better production records in a growing proportion of herds. Before World War II, in order to expand their milk output many farmers brought into production dual-purpose animals which, on the average, produced less milk annual-

ly than better type dairy animals.

Several economic influences have affected the rate at which milk cow numbers were reduced. Some of these are the prices received for milk, hogs, and beef cattle, and the payment rates for feed purchased, for labor hired, and for other factors used in production. To an increasing extent also, rates of pay and opportunities for employment in nonfarming pursuits became comparatively attractive to those in dairy farming.

But in the last several years the main variable of all the significant influences has been the price received by farmers for beef cattle. Milk prices have been reasonably stable and prices of dairy rations have tended to decline as grain prices have worked to lower levels. The milk-feed price relationship has been well above average for the last several years and at times has set new record highs.

Decline In Milkfat Test Improves Supply-Demand Balance

In the last 10 years or so, milk production has declined considerably relative to the population, partly because returns to dairy farmers have been less favorable than returns from other enterprises. Production of milk per person in 1959 was 703 pounds compared with 773 pounds in 1950 and 821 pounds in 1935-39. This downward trend has been a factor in effecting the closer balance between commercial demand and supply of milkfat in recent years than formerly. The decline in fat test of milk also has been important

in reducing the surplus volume. For the year 1959, as an example, if the fat test had been equal to that of 1950, production of milkfat would have been greater by about 235 million pounds. Roughly one-tenth of this increased quantity would have been used on farms. But the major share of it would have ended up in sales to the Government. Purchases of milkfat for price support in 1959 would have been nearly three times the 126 million pounds purchased, and somewhere around 7 percent of production would have been ac-

quired in the support program compared with the actual 2.7 percent.

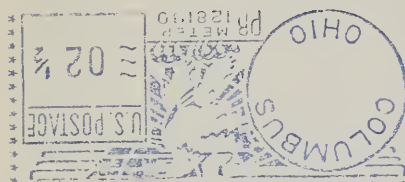
The solids-not-fat content of milk probably has declined only a fifth as much as fat. But on the other hand, farmers have sold an increasing proportion of the total solids-not-fat which they produce. Consequently, purchases of this component of milk, despite rising consumption, has been at record high levels in recent years. Without the decline in solids-not-fat content of milk, purchases by CCC in 1959 would have been about 8 percent instead of the 7 percent acquired.

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LIVE LONGER
DRINK MILK

Feed Grain Prices Average Five Percent Lower Than A Year Ago

Feed grain prices declined 4 percent from June to August, after rising seasonally during the first half of 1960. In August, prices of each of the four feed grains were below those of a year earlier—prices received by farmers averaged 5 percent lower. Feed grain prices may continue a little lower this fall than last, based on current prospects for large supplies and a reduced number of animal units on farms.

Corn and sorghum grain prices will decline seasonally during the next few months, as the 1960 crops are harvested. The indicated 1960 crops are substantially above average and are expected to again exceed domestic use and exports in 1960-61. The level of corn prices this fall and winter will be influenced to some extent by weather during harvest. Early frost or wet weather this fall would result in a substantial quantity of low quality corn that would tend to depress prices until such corn is moved into consumption. Prices received by farmers probably will average a little lower this fall than last, again falling well below the support level. The national average support price for corn is \$1.06 per bushel, 6 cents lower than in 1959. Sorghum grain prices also will average a little below the support level this fall as was the case in 1959. The national average support price for sorghum grain is the same as in 1959—\$1.52 per 100 pounds.

Market Quotations

September
1960

12 MIDWEST CONDENSERIES 3.5% per Cwt.	\$3.202
5 CONDENSERIES (Cincinnati) 3.5% per Cwt.	2.9200
4 CONDENSERIES (Tri-State) 3.5% per Cwt.	3.000
Evaporated Milk Code Price, 3.5% per Cwt.	2.961
Skim Milk Powder-Butter Price, 3.5% per Cwt. (Cincinnati)	3.2020
Skim Milk Powder-Butter Price, 3.5% per Cwt. (Columbus)	3.147
Skim Milk Powder-Butter Price, 3.5% per Cwt. (Dayton)	3.171
Skim Milk Powder-Butter Price, 3.5% per Cwt. (Toledo-Tri-State) and North Central Ohio)	3.045
Average Weekly Cheddars price per lb.	.36600
Average price per lb. non-fat dry milk solids, roller process delivered Chicago	.13805
Average price per lb. 92-score butter at Chicago	.61280
Average carlot prices non-fat dry milk solids, roller and spray process, f.o.b. manufacturing plant	.1278

Prices received by farmers for oats in August averaged 58 cents per bushel, 3 cents lower than a year earlier, but 8 cents above the national average support level. The short supply of oats in 1959-60 resulted in the price of oats per 100 pounds averaging about 20 percent above corn, after adjusting for feeding value. Oats is considered to have about 90 percent of the feeding value of corn, pound for pound. Oat prices are again high relative to corn this summer. Oat prices normally reach their seasonal low in July or August when corn is seasonally high. In the years 1949-58, August oat prices averaged only 81 percent of corn. In August of this year, oat prices were 95 percent of corn, slightly higher relative to corn than a year earlier. Oat prices probably will continue high relative to corn during 1960-61.

PRICES TO FARMERS CONTINUING ABOVE 1959

The average price received by farmers for all milk in each month of 1960 has been higher than a year earlier. Both the manufacturing and fluid components of the milk price have been slightly higher this year than last. While the surplus of milk in terms of milk equivalent has been nearly the same as a year earlier, sales of butter and or cheese to CCC were made in each week up to the first part of August. For fluid milk markets, higher prices have stemmed from the higher base prices for the different classes, as well as improved utilization in several markets. In the last few months, however, the price increase has been about the same for milk eligible for fluid uses as for manufacturing purposes.